

Fig. 2 Design Changes are done virtually at the same time by all people involved

Changed radius of hole number 2 from 3mm to 5mm

Increased wall thickness of all ribs by 0.5mm in order to meet specification

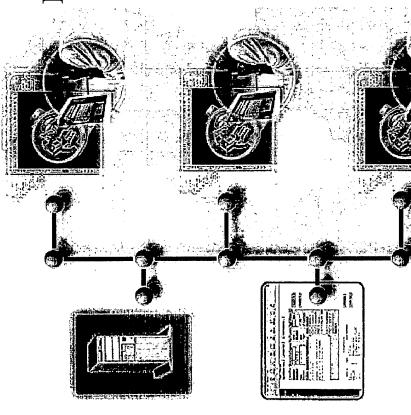
Draft angle of all ribs changed to 0.5 degree (from 0.4 degree)

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All people involved in the product development process meet in a virtual environment

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Product Design (e.g. in Europe)



Analysis/Inspection (e.g. in the US)

Manufacturing (e.g. in Japan)

Fig. 4

to understand what changes were done by whom for Collaboration Log contains all information required what reason

Collaboration Log 1

Name: Mechanical Designer X

Location: Sindelfingen, Europe

Date: 12, October 1999

Time: 9:12am

Computer: 15.143.12.12

Description: Changed radius of hole number 2 from 3mm to 5mm

Operation: Change_hole

Object: hole_id

Value: 3

Dependencies: none

Status: agreed

Collaboration Log 2

Name: Finite Element Analyst Y

Location: Fort Collins, Colorado, US Location: Kobe, Japan

Date: 12, October 1999

Time: 9:11am

Computer: 15.144.128.04

thickness of all ribs by 0.5mm in order to Description: Increased wall meet specification

Operation: Offset_faces

Object: face_1_id, face_2_id, face_3_id, face_4_id

Value: 0.5mm

Dependencies: Log 3

Status: agreed

Collaboration Log 3

Name: Manufacturing subcontractor Z

Date: 12, October 1999

Time: 9:15am

Computer: 22.255.128.22

Description: Draft angle of all ribs changes to 0.5 degrees (from 0.4 degrees)

Operation: Taper faces

Object: face_1_id, face_2_id, face_3_id, face_4_id

Value: 0.5mm

Dependencies: Log 2

Status: agreed